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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,507	09/18/2001	Donna J. Crowther	1999U033.US	1465

25959 7590 05/02/2003

UNIVATION TECHNOLOGIES LLC  
5555 SAN FELIPE, SUITE 1950  
HOUSTON, TX 77056

EXAMINER

RABAGO, ROBERTO

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 05/02/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

8/20/14

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/955,507	CROWTHER ET AL.	
	Examiner	Art Unit	
	Rob Rábago	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 April 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4,5 and 7-40 is/are pending in the application.
- 4a) Of the above claim(s) 14-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4,5,7-12 and 40 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
    If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
    a) ☐ All    b) ☐ Some \* c) ☐ None of:  
        1. ☐ Certified copies of the priority documents have been received.  
        2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
    \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
    a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s). <u>14</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                 |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>12</u> . | 6) <input type="checkbox"/> Other:  |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/21/2003 has been entered.
2. The rejections under 35 USC 102(b) over each of Chen et al. and Langhauser et al. are withdrawn in view of amendment requiring a support.
3. Upon further consideration, the rejection of claims 4-12 and 40 under 35 USC 112(2) is withdrawn with the following remarks. The specification has been further reviewed for indications of the intended scope of "bulky ligand metallocene-type catalyst" and "cyclopentadienyl-type bulky ligand" as recited in the claims. The most generic ligand group disclosed appears to be those ligands described only as "bulky", with example species disclosed at page 4, lines 17-33. Within this broad genus appear to be three subgeneric groups as given at page 4, lines 2-5, comprising ~~of~~ "cyclopentadienyl ligands", "cyclopentadienyl-type ligand structures", and "other similar functioning ligand structure[s]". Since the specification has provided no specific

Art Unit: 1713

definition which would allow the ordinary skilled worker to distinguish between "cyclopentadienyl-type ligand structures" and "other similar functioning ligand structure[s]", the ordinary meanings generally accepted in the art have been used. The ordinary meaning of "cyclopentadienyl" is deemed to be consistent with that provided by Hawley's Condensed Chemical Dictionary, previously of record. The ordinary meaning of "cyclopentadienyl-type", taking into consideration the description and exemplary species provided in applicants' specification, is deemed to be a ligand which includes in its structure an anionic aromatic C<sub>5</sub> core, such as indenyl, fluorenyl, etc., optionally substituted as described in the specification. The claims are limited to "metallocene-type catalyst[s]" comprising L<sup>A</sup> and L<sup>B</sup> which are "unsubstituted or substituted, cyclopentadienyl or cyclopentadienyl-type" ligands, and have been examined using the ordinary meanings as set forth above. Catalysts which do not contain ligands within this scope (i.e., catalysts with only ligands corresponding to the broad and loosely defined group of "other similar functioning ligand structures") have not been examined because they are not within the scope of the claims.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 4, 5 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langhauser et al. (US 5,491,205).

Art Unit: 1713

The reference discloses in claim 1 a catalyst for olefin polymerization including a bridge comprising a cyclic ring system with a central atom which may be germanium. The only claimed element missing from this cited disclosure is the use of a support. However, patentee suggests the use of supports at col. 6, lines 1-9, providing motivation for one of ordinary skill in the art to use a supported version of the disclosed catalyst, with reasonable success expected

6. Claims 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (Organometallics 1994), optionally in view of Winter et al. (US 6,057,408) or Winter et al. (US 5,532,396).

The reference discloses in the structure on page 748 a metallocene species within the claimed scope, and well as propylene polymerization therewith at page 749, second full paragraph. Missing is the suggestion to use a support. However, official notice is taken that the use of supports for metallocenes in methods of olefin polymerization is convention for obtaining established benefits, including improved polymer particle properties, better catalyst utilization in gas-phase methods, improved activity, facilitation of pre-polymerization, etc. Optionally, the ordinary skilled worker would be familiar with similar metallocenes and olefin polymerizations, including both of the disclosures to Winter et al. which suggest the use of a support (Winter '396 col. 11, lines 45-53; Winter '408 col. 9, lines 60-65) in combination with metallocenes which have cyclic and germanium-based bridges (Winter '396 col. 3, lines 62-64; Winter '408 col. 4, lines 11-13). Accordingly, one of ordinary skill in the art would be well motivated

Art Unit: 1713

to use the disclosed catalyst of Chen in a supported mode because such methods are well established as being of particular usefulness in olefin polymerization.

7. Claims 4, 5, 7-12 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winter et al. (US 5,532,396).

Examples 26 and 28 disclose a germanium-bridged catalyst including all claimed limitations except for the requirement that the bridge be cyclic and that the catalyst be supported. Although unexemplified, patentee discloses cyclic bridges at col. 3, lines 56-63, and supports at col. 11, lines 45-53. One of ordinary skill in the art would be motivated to use the disclosed alternative embodiments because patentee has suggested their use as catalyst components for the polymerization of olefins, with reasonable success expected. The comparative data of record is not sufficient to establish unexpected results because applicants' examples have not made a comparison with the closest prior art (i.e., the examples of Winter).

Applicants have repeatedly argued that Winter does not provide suitable motivation to arrive at the claimed invention, apparently on the grounds that the reference authors have not specifically assembled the claimed components into a single suggested embodiment. However, such detailed description is not necessary to support an obviousness rejection because a reference is effective for what it suggests to those of ordinary skill in the art (such level of skill being exceedingly high in the catalytic/polymerization art). In fact, the departure from the cited working examples is comparatively minor, being only that the bridge be cyclic and the catalyst as a whole be

Art Unit: 1713

supported. The optional embodiment to use a cyclic bridge has been explicitly suggested by patentees, as previously noted, as has the suggestion to use a support. Applicants' claimed catalysts are nothing more than a modification of the cited examples of Winter in two aspects which are specifically stated in the patent to be useful embodiments, and applicants have furthermore not established that such modification results in any unexpected results. Accordingly, a prima facie case of obviousness exists.

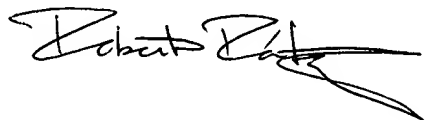
8. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art currently of record has not disclosed or suggested the species recited in this claim.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rob Rábago whose telephone number is (703) 308-4347. The examiner can normally be reached on Monday - Friday from 7:30 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached at (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Rob Rábago  
Examiner  
Art Unit 1713



RR  
April 30, 2003